

amenable to vaccine therapy, etc." Our statement gave 22.7 per cent as well and 40.9 per cent as improved, a total of 63.6 per cent, which we feel are amenable to a vaccine. This means that the larger number, although improved, still have symptoms.

In the main we must all agree that the careful observation of asthmatic and bronchitic symptoms following any acute infection is important to prevent, if possible, changes in the lung parenchyma. If we can treat these patients early, before such changes take place, we may do much toward preventing chronic pulmonary disease.

THE LURE OF MEDICAL HISTORY

WILLIAM CHARLES WELLS

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THE men who contributed to the rapid advance of science in the late seventeenth and early eighteenth centuries are notable for their versatility and the broad scope of their interests. John Hunter, Franklin, Lavoisier, Rumford, and Thomas Young, each showed capacity in various fields. William Charles Wells was such a searcher for facts, whose studies covered a multitude of subjects, but his cross-grained personality and his failure to make known his findings reduced their value and eclipsed his worth.

Wells was born in South Carolina in 1757, but his parents were Scotch and his education, from the ages of eleven to fifteen, and eighteen to twenty-one, was in Dumfries and Edinburgh. He spent the three years between these dates working for a Charleston physician, and after completing his Edinburgh studies stopped a short time in London, listening to William Hunter, then went as an army surgeon to Holland, where his quarrels with superiors soon led to his resignation. At Leyden he worked on his thesis, *De Frigore*, and after receiving his Edinburgh M.D. he returned to Charleston in 1780. His Tory family soon fled to Florida, where he ran the paper, was captain of volunteers, actor and theatrical manager for the plays to amuse his fellow refugees. With return of peace he went to Charleston, only to be jailed for three months in a civil suit, and again he left for Florida, then Paris, and finally, in 1785, he started to practice in London.

He records that his debts, seven hundred and fifty dollars when he began practice, increased to three thousand dollars in ten years. For several years he scarcely received a fee, but after ten years in practice he was collecting twelve hundred dollars a year, and was able, gradually, to pay off all his debts, although his income never rose over twenty-two hundred dollars. Through this time his life was austere and his circle of friends, though distinguished, was limited to five men. Of these Matthew Baillie, the greatest physician of the time, was one of the warmest. In 1812 Wells developed "hydrothorax," the condition which we now recognize as auricular fibrillation, and from this he suffered until his death in 1817. He remarked of himself,

"By principle a constitutional Tory, but my manners, I should think, would lead most persons to regard me a republican."

Wells early entered the Royal Society, but even the sponsorship of Pitcairn and Baillie was inadequate to make him a Fellow of the Royal College of Physicians. The college banned any who had ever worked as apothecaries, general practitioners, or accoucheurs, and was sadly political in its organization. Wells protested against its abuses in a letter to Lord Kenyon, and later, when Baillie again urged him to accept a Fellowship, he declined. The college, founded in 1518, required its fellows to be "profound, sad, discreet, groundedly learned, and deeply studied in physic." Wells had all the qualifications except the third.

Wells' most widely known work, and one which was reprinted often and included in many medical texts, was his "Essay on Dew," which was awarded the Rumford medal. From observations made in his own garden with crude instruments, he had correctly evaluated the importance of radiation of heat from the objects on which dew condensed, and established the facts of dew formation. His essay was curtly dismissed by Thomas Young in the *Quarterly Review*, and this added another source of sorrow to the unhappy invalid who had carried out his studies on dew in spite of his ill health. His first studies on vision were published in 1792, and he continued his interest in this subject, making important observations on the optical axis, convergence, pupillary changes during accommodation, and on the effect of belladonna on the pupils and on accommodation. He described a case of total alopecia, and one of chloasma. In connection with the latter he made some observations on the immunity of negroes to certain diseases, and to the analogy between the improvement of domestic animals by selection and the development of varieties of man by a similar mechanism of nature. What was done for animals artificially "seems to be done with equal efficiency though more slowly, by nature, in the formation of varieties of mankind, fitted for the country which they inhabit. Of the accidental varieties of man, which would occur among the first scattered inhabitants, some one would be better fitted than the others to bear the diseases of the country. This race would multiply, while the others would decrease, and as the darkest would be the best fitted for the (African) climate, at length become the most prevalent, if not the only race." Darwin regarded this observation of Wells' as the "first recognition of the principle of natural selection."

Of the case reports made by Wells those on the infectiousness of erysipelas, on unusual complications of thoracic aneurysm, and one on epilepsy and hemiplegia due to a traumatic cranial lesion, and improved by removal of a button of bone with a spike projecting into the dura, are of some interest. His most important medical contributions concern rheumatic endocarditis and dropsy. He recorded several cases illustrating the relation between rheumatic fever and heart disease, a fact previously noted by Pitcairn and

Baillie, but neglected for some years after Wells' report. He also recognized the causal relationship between scarlet fever and dropsy. This also had been noted previously, but he brought out the curious time relation—an interval of sixteen to twenty-five days elapsing between the onset of the fever and the appearance of dropsy. He found that serum and red cells were excreted in the urine of these dropsical patients. Extending his studies to dropsies not associated with scarlatina, Wells confirmed Cruikshank's observations of the frequent presence of serum in the urine, and the occasional presence of blood. He roughly measured the amount of serum, using both heat and nitric acid as precipitants, and found that albuminuria in certain cases persisted for years after the dropsy had disappeared and the patient been restored to health. He noted hard small kidneys with contracted cortical layers in a few patients who came to section, but most of his one hundred and fifty patients recovered. The importance of mercurial treatment as a cause of albuminuria was noted by Wells, but he did not realize that dropsy was due to renal disease, and considered that in scarlatinal cases it was due to peritoneal irritation. Blackall, who observed these same facts independently, also failed to anticipate Bright's correlation of renal disease and albuminuria, though both knew that the latter did not occur in health and even in the absence of dropsy was evidence of disease.

Wells had no personal following, rapidly was lost to view in medical literature, and his work scarcely influenced progress. A generation later American physicians, with misguided patriotism, began to advertise this difficult Scot as an "American pioneer." In fact, he was American neither in education nor by choice, but was born in a Crown colony and lived in England. The circumstances of his life were melancholy, but the man who first accurately stated the importance of natural selection in biological evolution, who gave the explanation of dew formation, and who first realized the significance of albuminuria deserves a passing notice among the brilliant thinkers of his day. He has already received as eloquent praise as any man can offer, and I close with some quotations from the 1850 address of Professor Elisha Bartlett, of Louisville:

"What a beautiful phenomenon is that of Dew! As soon as the diminishing rays of the declining sun allow the surface of the earth to lose something of its noontide heat, this silent distillation from the great alembic of the atmosphere begins; and through the evening and the morning twilight, and the serene watches of the night, every leaf of the forest, every blade of grass, and every flower of the field, gathers its beaded and transparent gems, to glitter like flashing diamonds, and to be exhaled like auroral incense in the rays of the early sun. And as if to give to this phenomenon an especial and particular beauty, it is witnessed only under cloudless heavens and in still nights; when the winds are hushed, and the stars are shining in the sky. What a delicious element would be lost from the manifold charm

and glory of a summer dawn, if there was no dew on the grass and the flowers! And how would the breath of Aurora be robbed of its fragrance, and her roses of their freshness and their bloom!

"This handiwork of Doctor Wells still stands as he left it—not like the colossal calculus of Newton, holding in its stupendous embrace, alike the light dust on the balance, and the infinite universe of worlds; but, nevertheless, finished, faultless, and entire—compact and perfect in itself—graceful and imperishable as one of the granite obelisks of the Nile, resting its basis on the solid earth, and lifting its apex high toward the heavens. As long as the earth in her annual circuit round the sun proclaims, in the music of the spheres, the name of Galileo; as long as the glory of Newton is set with the rainbow in the firmament; as long as the fame of Harvey is spoken by every throb of the beating heart; as long as the lightning flashes forth from horizon to horizon the great discovery of Franklin, so long shall the hoarfrost and the dew, as through winter and summer, in each still and starry night, they gather and sparkle over all the broad surface of the earth, upon hedgerows and fences, upon mountain and valley, upon field and forest and meadow, upon cottage roof and temple dome, keep green and unfading the name and the memory of William Charles Wells."

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CLINICAL NOTES AND CASE REPORTS

EXTENSIVE IMPAIRMENTS FROM MINOR EAR LESIONS*

REPORT OF CASES

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WHEN one is confronted with a problem of marked impairment of function involving one of the special senses, more particularly hearing, it is well to attempt its solution along the simplest and most direct avenue of approach. It sometimes happens that a very marked hearing defect, existing over a period of years, turns out to have been due to a cause easily removable. Cerumen impaction, undiscovered for a long time, may become responsible for effects totally disproportionate to its seriousness—or rather, its nonseriousness. Tubotympanic impairment of hearing may come in time to be dignified by apprehensions and misconceptions as to its import, commensurate only with the length of time of its existence. The direct avenue of approach to diagnosis and the courage of convictions as to the soundness of diagnostic reasoning may be rewarded by results little short of miraculous to the patient. Of late it has seemed the vogue to draw the curtain and expose one's glaring mis-

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